

Levee Evaluation Program

FloodSAFE VISION

A sustainable integrated flood management and emergency response system throughout California that improves public safety, protects and enhances environmental and cultural resources, and supports economic growth by reducing the probability of destructive floods, promoting beneficial floodplain processes, and lowering the damages caused by flooding.



The Department of Water Resources (DWR) is leading a multifaceted initiative called FloodSAFE California to improve integrated flood management statewide, with an emphasis on better managing flood risk related to the State-federal flood protection system in the Central Valley. In February 2006, Governor Schwarzenegger declared a State of Emergency for California's levee system. In November 2006, voters approved Propositions 1E and 84, providing nearly \$5 billion in state bond funds for flood protection projects statewide.



Several bills¹ passed in 2007, adding considerable new state laws related to flood management in the Central Valley and affecting how DWR and local entities work to manage flood risk. DWR is required to evaluate the current level of performance of the State-federal flood protection system², including an estimate of the risk of levee failure, a discussion of the inspection and reviews performed, and recommendations regarding the levees and future work activities. Geotechnical engineering performed through the Urban and Non-Urban Levee Evaluation (ULE and NULE) Projects will help flood managers better understand overall flood risk in the Central Valley and evaluate alternative changes to the flood management system to better manage risk.



DWR is now engaged in an unprecedented effort to evaluate 470 miles of urban levees and 1,620 miles of non-urban levees for hidden defects. ULE and NULE Project teams are evaluating State-federal Project³ levees, and associated non-Project levees, to determine whether they meet defined geotechnical criteria and, where needed, to identify remedial measures, including cost estimates, to meet those criteria.

Information being developed through the ULE and NULE Projects will be used within the Central Valley Flood Management Planning Program to inform development of two required documents: the Flood Control System Status Report and the Central Valley Flood Protection Plan.

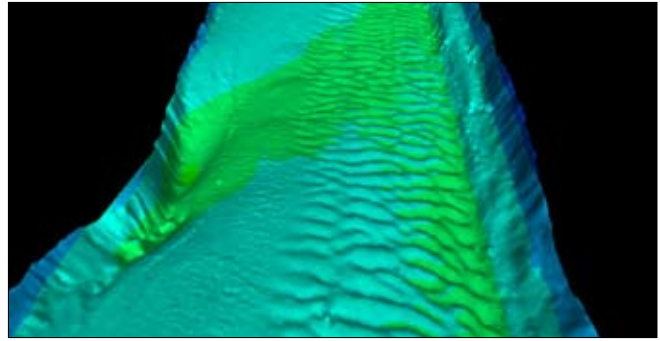


Throughout the Central Valley, levees provide essential protection for communities and farmland, preventing possible catastrophic flooding and loss of life. DWR is currently evaluating approximately 2,100 miles of Central Valley levees as shown above.

¹ Senate Bills 5 and 17; Assembly Bills 5, 70, 156, and 162; and Propositions 1E and 84 added Sections to the Government Code, Health and Safety Code, Public Resources Code, and Water Code.

² This system is referred to in the Public Resources Code as the State Plan of Flood Control.

³ Levees within the State-federal flood protection system are called "Project" levees (Water Code §9602(c)).



Bathymetric surveys are underwater explorations conducted using special multi-beam sonar installed on customized boats. These surveys provide detailed topographic data of the riverbed and riverbanks that form the base of the levee systems.

The Levee Evaluation Program has multiple goals and objectives, including supporting federal and local flood management programs by providing geotechnical data, analysis, and remedial alternatives to local, state, and federal stakeholders.

Principal objectives for the ULE Project are to:

- Prepare preliminary, remedial alternatives and associated cost estimates necessary for acceptable levee performance at the estimated 200-year water surface elevation by December 2010.
- Deliver final documentation of geotechnical analysis and remedial alternatives, including associated cost estimates, March 2011.
- Publish a list of available data and analysis products for use by local, state, and federal stakeholders on the FloodSAFE website by January 2009, and provide available data and analysis products within 30 days of request.
- Develop an interim Geographic Information System (GIS) database for levee evaluation products by April 2008.
- Develop an interim database (compatible with gINT software) for geotechnical exploration products by January 2007.
- Identify critical geotechnical deficiencies and recommend further analysis to the Critical Repairs Program as deficiencies are identified.



Principal objectives for the NULE Project are to:

- Publish a list of available data and analysis products for use by local, state, and federal stakeholders no later than November 2009, and provide available data and analysis products within 30 days of request.
- Categorize all project levees into three categories: obvious deficiencies found, no obvious deficiencies found, or insufficient data to determine.
- Prepare preliminary, remedial alternatives (and associated cost estimates) necessary for acceptable levee performance at the design water surface elevation by April 2010.
- Deliver final documentation of geotechnical analysis and remedial alternatives, including associated cost estimates, by August 2011.
- Identify critical geotechnical deficiencies.